

**INTEL INVENTION DISCLOSURE**  
**ATTORNEY-CLIENT PRIVILEGED COMMUNICATION**  
 located at <http://legal.intel.com/patent/Index.htm>

**27946**

DATE: 6-14-02

**TMG-TM/ICG/OPG/OPD**

It is important to provide accurate and detailed information on this form. The information will be used to evaluate your invention for possible filing as a patent application. **Invention Disclosure forms MUST be sent electronically via email to your manager/supervisor who should then forward with their approval to our email account "invention disclosure submission."** If you have any questions, please call 8-264-0444.

Last Name: Mader	First Name: Thomas	M.I. B
Intel Phone Number: (510) 578-5617	Intel Fax Number: (510) 579-5917	Mailstop: TB2
E-mail address: tom.mader@intel.com		WWID: 10965328
Citizenship: USA	Are you a contractor? Yes:	No: X
Home Address: 16251 Azalea Way		
City: Los Gatos	State: CA	Zip: 95032
Corporate Level Group: ICG	Division: OPG	Country: USA
Supervisor: Dan Sweeney	WWID: 10034224	Subdivision: OPD
	M/S: TB1	Phone #: 510-578-5637

Last Name: Buchheit	First Name: Steve	M.I. J
Intel Phone Number: 510 578-5610	Intel Fax Number: 510 578-5910	Mailstop:
E-mail address: steve.buchheit@intel.com		WWID: 10965253
Citizenship: USA	Are you a contractor? Yes:	No: X
Home Address: 389 Waverley St		
City: Menlo Park	State: CA	Zip: 94025
Corporate Level Group: ICG	Division: OPG	Country: USA
Supervisor: Tom Mader	WWID:	Subdivision: OPD
	M/S: TB2	Phone #: 510 578 5610

Last Name: Rose	First Name: Dana	M.I. L
Intel Phone Number: 510-578-5627	Intel Fax Number: 510-578-5921	Mailstop: TB2
E-mail address: Dana.Rose@Intel.com		WWID: 10456448
Citizenship: USA	Are you a contractor? Yes:	No: X
Home Address: 6307 Hermitte Court		
City: San Jose	State: CA	Zip: 95135
Corporate Level Group: ICG	Division: OPG	Country: USA
Supervisor: Tom Mader	WWID: 10965328	Subdivision: OPD
	M/S: TB2	Phone #: 510-578-5617

Last Name: KIM	First Name: DAEHWAN	M.I. D
Intel Phone Number: 510 578-5653	Intel Fax Number: 510 578-5953	Mailstop: TB2
E-mail address: DANIEL.D.KIM@INTEL.COM		WWID: 10665284
Citizenship: USA	Are you a contractor? Yes:	No: XXXXXXXXXX
Home Address: 1366 HAMPTON DRIVE		
City: SUNNYVALE	State: CA	Zip: 94087
Corporate Level Group: ICG	Division: OPG	Country: USA
Supervisor: DANA ROSE	WWID: 10456448	Subdivision: OPD
	M/S: TB2	Phone #: 510 578-5627

Last Name: OEN	First Name: JOSHUA	M.I. T
Intel Phone Number: 510-578-5628	Intel Fax Number: 510 578-59-28	Mailstop: TB2
E-mail address: JOSHUA.OEN@INTEL.COM		WWID: 10965339
Citizenship: USA	Are you a contractor? Yes:	No: XXXXXXXXXX
Home Address: 894 BARCELONA DRV		
City: FREMONT	State: CA	Zip: 94536
Corporate Level Group: ICG	Division: OPG	Country: USA
Supervisor: STEVE BUCHHEIT	WWID: 10965253	Subdivision: OPD
	M/S: TB2	Phone #: 510 578-5610

**EXHIBIT I**  
 Page 1 of 4

**(PROVIDE SAME INFORMATION AS ABOVE FOR EACH ADDITIONAL INVENTOR)**

2. Title of Invention: OPTICAL XPAK TO XENPAK ADAPTER

3. What technology/product/process (code name) does your invention relate to (be specific if you can)

Related product name Xenpak & Xpak

4. Include several key words to describe the technology area of the invention in addition to # 3 above:  
Xpak MSA , Xenpak MSA , 10gig transponder,

5. Stage of development (i.e. % complete, simulations done, test chips if any, etc.):  
Product currently in conceptual stage

6a. Has a description of your invention been (or planned to be) published outside of Intel: Not at this time

If YES, was the manuscript submitted for pre-publication approval through the Author Incentive Program:

If YES, please identify the publication and the date published:

6b. Has your invention been used/sold or planned to be used/sold by Intel or others? Planned to be released

If YES, date it was sold or will be sold: Alpha samples in November, 2002 time frame

6c. Does this invention relate to technology that is or will be covered by a SIG (special interest group)/standard or specification?

No

If YES, name of SIG/standard/specification:

6d. If the invention is embodied in a semiconductor device, actual or anticipated date of tapeout?

Not applicable

6e. If the invention is software, actual or anticipated date of any beta tests outside Intel:

Not applicable

7. Was the invention conceived or constructed in collaboration with anyone other than an Intel blue badge employee or in performance of a project involving entities other than Intel (e.g. government, other companies, universities or consortia)? NO: NO If YES, name of individual or entity:

8. Is this invention related to any other invention disclosure that you have recently submitted? If so, please give the title and inventors: NO

**PLEASE READ AND FOLLOW THE DIRECTIONS ON  
HOW TO WRITE A DESCRIPTION OF YOUR INVENTION**

**Try to limit your description to 2-3 pages  
Do NOT attach a presentation, white paper, or specification  
ANSWER ALL OF THE QUESTIONS BELOW**

**Please provide a description of the invention and include the following information:**

**EXHIBIT I  
Page 2 of 4**

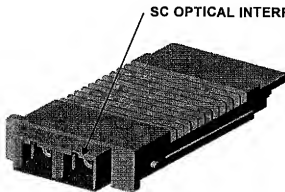
1. **Describe in detail what the components of the invention are and how the invention works.**  
Currently the Xenpak and Xpak modules are designed independently without any interchangeability of parts. The proposed concept is to make the functionality of the PC board

assembly be adaptable to both products and change the mechanical features in order to satisfy both product requirements. The proposed concept will allow a PC board assembly from the Xpak to be used in the Xenpak Transponder. The PC board assembly is designed to fit the Xpak module, but for the Xenpak module the same PC board assembly will create an incorrect position of the Optical interface. The key in allowing the transformation of a Xpak PC board to be used in a Xenpak is an Optical Patchcord. The Optical patchcord is the equivalent of an electrical extension cord and can allow the outside connector interface to be at a different location with respect to the PC board mounted optics.

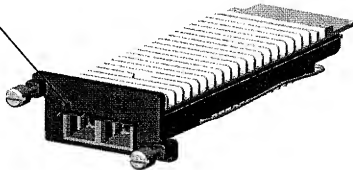
2. **Describe advantage(s) of your invention over what is currently being done.**

The advantage of having a common PC board assembly is, reduced part cost, same basic assembly process, testing and qualifying protocol can be consolidated, common programming scheme, product characteristics are similar for customer...etc.

3. **You MUST include at least one figure illustrating the invention. If the invention relates to software, include a flowchart or pseudo-code representation of the algorithm.**

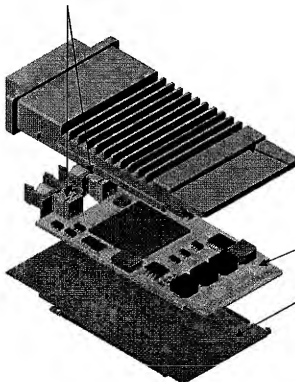


**XPAK 10Gbits / Transceiver**



**XENPAK 10Gbits / Transceiver**

**PC BOARD MOUNTED OPTICS**



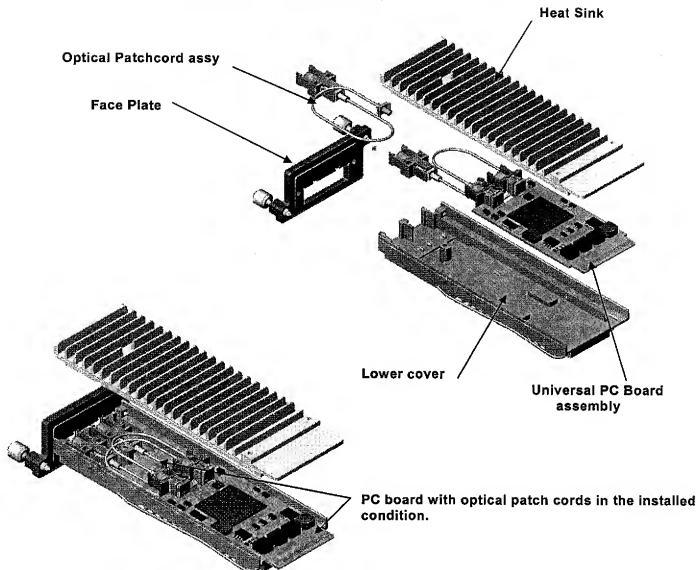
**XPAK EXPLODED VIEW**

Heat Sink

Universal PC Board assembly

Lower cover

## XENPAK EXPLODED VIEW



4. **Value of your invention to Intel (how will it be used?).** By satisfying the two different markets with one solution (internally) Intel can eliminate most of the development cost of a new product.
5. **Explain how your invention is novel. If the technology itself is not new, explain what makes it different.** Currently the industry solves this type of problem by developing two different solutions for two products. This proposal will allow two different products to share a common core part, the PC board assembly.
6. **Identify the closest or most pertinent prior art that you are aware of.** None that we are aware of.
7. **Who is likely to want to use this invention or infringe the patent if one is obtained and how would infringement be detected?** Our competitors, Picolight, Infineon, JDSU, Agere, Mitsubishi, Hitachi and other transponder manufacturing companies

**HAVE YOUR SUPERVISOR READ AND FORWARD IT ELECTRONICALLY VIA E-MAIL TO "INVENTION DISCLOSURE SUBMISSION"** **EXHIBIT** I  
Page 4 of 4

DATE: \_\_\_\_\_ SUPERVISOR: \_\_\_\_\_

BY APPROVING, I (SUPERVISOR) ACKNOWLEDGE THAT I HAVE READ AND UNDERSTAND THIS DISCLOSURE, AND RECOMMEND THAT THE HONORARIUM BE PAID

Favorites:

Add... Open...

- ☐ American Express Intl travel ...
- ☐ CIG Robot Encoder
- ☐ Circuit (for Engineering/Design)
- ☐ Database Patent Court and P...
- ☐ ED calculator
- ☐ Engineering Intl
- ☐ File Server Software & Drivers...
- ☐ Free Downloads for your Mobile...
- ☐ Home - mp4 purchasing
- ☐ Home - SPOCC US & Canada P...
- ☐ Intl Automated Shipping Memo
- ☐ Intl Communications Group M...
- ☐ Intl management courses
- ☐ Intl Work Week Calendar 200...
- ☐ ISS Home
- ☐ IT Product Catalog
- ☐ Leadwire at Intl
- ☐ Legal Web Site - Confidential In...
- ☐ Legal Web Site Patent Practice
- ☐ My Expertise
- ☐ ODS Home
- ☐ STEEL Online
- ☐ To repair a damaged Personal ...
- ☐ Tutor - Login
- ☐ PCA
- ☐ Personal
- ☐ Test equipment

THATHERMOMECHANICAL 30667	6/27/2004	PUBLISHED
OPTICALMEMS 26831	11/25/2002	PENDING NO
OPTICALMEMS 27978	10/16/2002	ISSUED NO
CIRCUITS 27971	10/15/2002	DECLINE
OPTICALMEMS 27837	10/6/2002	DECLINE
OPTICALMEMS 27346	10/6/2002	PENDING NO
THATHERMOMECHANICAL 26832	7/15/2002	PUBLISHED
OPTICALMEMS 21732	6/14/2001	PENDING NO
OPTICAL XPAK TO XENPAK ADAPTER		

EXHIBIT II

Page 1 of 1



## New Client / Matter Form

Page 1

Date	11/6/2003	<input type="radio"/> NEW CLIENT	Client	110578
Prepared By:	af	<input checked="" type="radio"/> EXISTING CLIENT	Matter	110578-135407

## CLIENT INFORMATION

Client Model:	*		
Client Name 1:	INTEL LEGAL - PPG/OPTICAL-MEMS		
Client Name 2:			
Address Line 1:	INTEL CORPORATION		
Address Line 2:	DAVID SIMON		
Address Line 3:	CHIEF PATENT COUNSEL		
Address Line 4:	C/O MALOU DE LEON, SC4-203		
Address Line 5:	2200 MISSION COLLEGE BLVD		
Address Line 6:	SANTA CLARA, CA 95052		
City:	SANTA CLARA	State:	CA
Postal Code:	95052	Country:	
International Prefix No:		Phone No:	(408) 765-6886
		Fax No:	
SS/Tax ID:			
Contact Name:			
Contact Title:			
Contact Email Address:			
Domestic / International:	<input checked="" type="radio"/> D	Add To Timekeeper's Contact List:	<input type="checkbox"/>

Notes: NEED C/M and file on a RUSH BASIS, PLEASE. Please only create a trifold with side colored barcode sticker and white barcode sticker on it. Check file out to supervising attorney, but deliver to me. Thanks. - Allison Fah

WFM\_1018

EXHIBIT III

Page 1 of 1